

Worksheet for Determining the Type of Air Permit Required for Graphic Arts Facilities

If you need help in completing this worksheet of the application, please contact Small Business Environmental Assistance Program at 602-506-6750.

There are 3 questions you can answer that will help you determine what type of air permit (if any) is required for your unique Graphics Arts facility.

Question 1: Determine which permit is needed, if any.

For question 1, you will need the following information.

1. The number of printing surfaces for each press at your facility.
2. The printing surface impression area of each printing press.

Now you need to calculate the impression area of each printing surface by multiplying the length of the impression area by the width of the impression area.

Add the impression areas of the individual surfaces together to get the total impression area of all presses at the facility. When you are finished with the calculations enter the total impression area for all the presses in box 1 to the right. (Don't forget to say whether they are square inches or square centimeters.)

Box 1:

Is the total surface area from Box 1 greater than 500 square inches (or 3,226 square centimeters)?
(Put your answer in the Box 2.)

Box 2:

Do any of the printing presses used at your facility have 3 or more printing surfaces? (Put your answer in the Box 3).

Box 3:

If the answers in Box 2 and 3 are BOTH NO, then a permit is not required. If either answer is yes check YES on the application form Section A and go on to Question 2 of this worksheet to determine if the facility qualifies for the General Permit or must apply for a source specific permit.

Question 2:

For question 2, you will need the following information.

Does your facility use a control device such as a thermal oxidizer, carbon adsorption or other control device unit to capture Volatile Organic Compounds (VOC's) from the solvents, inks, fountain solutions, etc, used in your printing operations? (Put your answer in the Box 4.)

Box 4:

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If the answer in Box 4 is YES the General Permit cannot be used and you must apply for an Individual Source Permit. Stop here and obtain an application for an Individual Source Permit at <http://www.maricopa.gov/envsvc/AIR/permits/applications.asp>.

If you answered NO in Box 4, check NO to question 2 in Section A of the application form and then proceed to Question 3 of this work sheet.

Question 3: The following information will be needed for this part:

1. Total annual VOC emissions from ALL sources at the facility.
2. Total monthly VOC emissions from ALL sources at the facility.

Sources include (but are not limited to) printing operations, equipment cleaning, parts cleaning, and maintenance activities on equipment.

How do you determine VOC emissions from sources?

There are several different ways to calculate VOC emissions; some of the methods are very time consuming so lets go about it in a very simple way. Let's first take a look and see if enough material is used to generate 25 tons of VOC's, that's 50,000 pounds. You will need to know (or be able to estimate) the amount of material the facility will use in a calendar year. (There is also an example and a worksheet for this calculation attached.)

1. Find out what materials containing VOC's will be used in the facility.
2. Make a list of the materials containing VOC's to be used and approximately how much of each will be used in a year.
3. Next, figure out how many pounds of each material you will use and add them together.
 - a. If the amount is less than 50,000 pounds (25 tons) a General Permit is right for your facility and you should fill out the entire General Permit Application Form for a Graphic Arts facility.

- b. If the amount is greater than 50,000 pounds (25 tons) then determine exactly how much of the weight for each material used is a VOC's. Multiply the total annual usage for that material by the VOC content for each of the chemicals on your list. The VOC content can be found on the Material Safety Data Sheet (MSDS).

Will your facility emit over 25 tons (22,680 kg) of Volatile Organic Compounds (VOC's) in any calendar year? (Put your answer in the Box 5.)

Box 5:

Will your facility emit over 4,200 pounds (1,909 kg) of Volatile Organic Compounds (VOC's) per month? (Put your answer in the Box 6.)

Box 6:

If the answers in Box 5 and 6 are BOTH NO a General Permit is right for your facility and you should fill out the entire General Permit Application Form for a Graphic Arts facility.

If either answer in Box's 5 and 6 are YES then a General Permit does not apply and you will need to apply for an Individual Source Permit. You may obtain an application for an Individual Source Permit at <http://www.maricopa.gov/envsvc/AIR/permits/applications.asp>.

You should now be able to determine if you need a General Permit for a Graphic Arts Facility or an Individual Source Permit.

Example - VOC Content List

Chemical or Material Name	Annual Usage (gallons)	Density (pounds/gallon)	Annual Usage (pounds)	VOC Content (see Notes: 1 & 2)	Total pounds of VOC's
Marshal D's Fountain Solution	5,000	7.25	36,250	78%	28,275
Saguaro Ink	3,000	8.32	24,960	25%	6,240
Milton's Super Cleaner	500	6.59	3,295	100%	3,295
Fred's Cleaning Solution	200	8.3	1,660	8%	132.8
			Total	66,165	37,942.8

Density = (Specific Gravity) X (8.345 lb/gallon)
8.345 lb/gallon is the weight of water at standard conditions.
1 ton = 2000 pounds

IMPORTANT NOTES:

Note 1: The VOC content can be found in the material safety data sheet (MSDS) provided to you by your material supplier. If you cannot find the VOC content on the MSDS contact your material supplier or manufacturer for assistance. They should have the information readily available and are required to provide this information to you by law for all regulated air pollutants, and VOC's are regulated.

Note 2: The VOC content maybe provided in a range, like 55% - 70% which is fine, but use the highest number in the range for your calculations.

Note 3: This calculation method assumes that 100% of the VOC's in the materials used are emitted, if the total pounds of VOC's from your facility are over 50,000 pounds (25 tons),you can Contact Small Business Environmental Assistance Program at **602-506-5150** for alternative calculations available for more refined emission estimates.

Worksheet - VOC Content List

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